Patent claims

1. Method for the isolation and concentration of macromolecules, ~~characterized in that~~ wherein the macromolecules are electrokinetically collected on a membrane in a microchannel and are then analysed.

2. Method according to Claim 1, ~~characterized in that~~ wherein the nucleic acids, viruses, proteins, bacteria or fungi are electrokinetically collected on a membrane in a microchannel and are then analysed.

3. Method according to ~~Claims 1 and 2~~ claim 1, where the sample is derivatized on the membrane.

4. Method according to ~~Claims 1 to 3~~ claim 1 as sample preparation for further analytical methods.

5. Method according to ~~Claims 1 to 4~~ claim 4 as sample preparation for MS, gel electrophoresis, PCR, TEM, nucleic acid sequencing, immunodiagnosis and hybridizations.

6. Device for carrying out the method according to ~~Claims 1 to 5~~ claim 1 in the form of a chip module with embedded membrane, with 1-400 capillaries being arranged side by side.

7. Device according to Claim 6, comprising a membrane of polyethersulphone (PES), polyester, fabric-supported acrylic polymer, polytetrafluoroethylene (PTFE), polysulphone, polypropylene (PP), glass fibre, nylon or polycarbonate.

8. Device for carrying out the method according to ~~Claims 1 to 5~~ claim 1 in the form of a shallow channel for analysing salt-containing samples.

9. Use of the device according to ~~Claims 6 to 8~~ claim 6c for the enrichment and the analysis of macromolecules.

10. Use of the device according to ~~Claims 6 to 8~~ claim 6c in the quality control of biological products.

11. Use of the device according to ~~Claims 6 to 8~~ Claim 6 for direct infection diagnosis.

12. Use of the device according to ~~Claims 6 to 8~~ Claim 6 for amplification-free nucleic acid analysis.

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